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DIVISION

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ACTIVITIES

PART 2

JOURNAL of the

Hydraulics

Division

PROCEEDINGS OF THE



**AMERICAN SOCIETY
OF CIVIL ENGINEERS**

DIVISION ACTIVITIES

HYDRAULICS DIVISION

Proceedings of the American Society of Civil Engineers

NEWS

April, 1958

PURPOSE OF THE HYDRAULICS DIVISION (Quoted from the Official Register)

"The advancement and dissemination of knowledge relating to the occurrence of water in nature and its behavior in structures, water courses, and underground.

In particular the field of the Hydraulics Division shall embrace meteorology and hydrology as they affect the engineer, fluid mechanics in engineering usage, and applied hydraulics as a branch of engineering science which furnishes the basis for hydraulic design and for the practical use of water in the different specialized branches of hydraulic engineering."

TECHNICAL COMMITTEE NEWS

Flood Control Committee

A Task Force on Flood Plain Zoning is being organized for the following purpose:

To study the problem of flood plain zoning, taking into account the magnitude of floods, the frequency of flooding, controlling stages or elevations, obstructions in floodways, and floodway limits, with the objective of developing engineering guide criteria.

Membership of this task force will be announced after final approval by the Division Activities Committee of the ASCE Board of Direction. Mr. H. A. Foster is Chairman of the Flood Control Committee.

Tidal Hydraulics Committee

The Committee on Tidal Hydraulics met February 10, 1958, in Savannah, Georgia. Program plans for 1958 and 1959 were discussed. Mr. E. P. Fortson, Jr., is Chairman of the Committee.

The ASCE Committee on Tidal Hydraulics has not so far been required to organize task committees, because of its unique position in co-existence with

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a Corps of Engineers Committee on Tidal Hydraulics which has presently active the following projects:

- Sedimentation in tidal waterways
- Radioactive tracers
- Investigation of salinity intrusions and related phenomena
- Investigation of existing data on tidal entrances
- Methods of computing tides and currents in tidal waterways
- Effects of adjacent shores on tidal entrances

The Committee is now considering activities in other important fields of tidal hydraulics which are not necessarily within the purview of the Corps of Engineers Committee on Tidal Hydraulics, or which are of such fundamental nature as to admit of parallel endeavor. Examples of such fields are the vital aspects of water quality as distinguished from the economic, commercial or mechanical aspects, and the principal factors causing mixing. The Committee plans later to consider definite objectives for task committees, and individuals with experience appropriate for serving on them. However, the Committee also is giving consideration to presenting recommendations for research to the Hydraulics Division Committee on Research, as a possible alternative to the formation of task committees.

HYDRAULICS DIVISION ADMINISTRATIVE COMMITTEE ON RESEARCH

The initial meeting of this newly formed committee was held January 23 and 24, 1958, in Denver, Colorado. The new committee is a result of the Society Board of Direction's concern with the lack of emphasis on research in some technical divisions and the resulting formation of many splinter groups in areas where ASCE should be active. The stated purpose of the new committee is:

"To initiate, organize, and coordinate programs of research in hydrology, hydromechanics, and applied hydraulics; to determine areas in which research is required; to promote interest in and financial support for research in cooperation with the Society Committee on Research."

In other realms of fluid mechanics there are strong research programs, but in the civil engineering area there has been little basic support.

As an indication of the distinction between this new committee and the former committee of the same name (now termed the Hydromechanics Committee) it was pointed out that this latter is a technical committee which sponsors sessions, task forces, etc. The new committee is administrative like the Publications Committee, etc. Being administrative does not mean to administer research (any more than the Committee on Publications writes papers).

A number of areas of possible research needs were brought up by various committee members. Briefly, these are as follows: open channel flow measurement techniques and instruments, remote reporting rain or snow gages, floods at high elevations where sleet or frost effects are very important, sediment deposition or delta problems, need for a reliable sediment transport formula, stream friction of alluvial streams (particularly more field data needed), high velocity flow in accelerated case, continuing open channel

flows at near critical depth, earthquake forces on structures such as piers or towers, density currents, and unsteady groundwater flows.

ASCE—PORTLAND CONVENTION

June 23-27, 1958

Tentative Hydraulics Division Program

Session Sponsored by
Committee on Hydraulic Structures

Monday, June 23, 1958

9:30 a.m.

Presiding: Harold M. Martin, Chairman, Executive Committee
Hydraulics Division, and J. H. Douma, Chairman,
Committee on Hydraulic Structures, Hydraulics
Division

High Head Reservoir Control Gates

J. H. Douma, Associate Member, ASCE, Hydraulic Engineer,
Office, Chief of Engineers, Washington, D. C.

Hydraulic Characteristics of Gate Slots

J. W. Ball, Associate Member, ASCE, Hydraulic Engineer,
Bureau of Reclamation, Denver, Colorado

Determination of Downpull Forces on Fixed Wheel Gates

Donald Colgate, Associate Member, ASCE, Hydraulic Engineer,
Bureau of Reclamation, Denver, Colorado

Discussion

C. D. Ramsden, Vice President and General Manager,
Pacific Coast Engineering Company, Alameda, California

Air Models as Tools for Determining Hydraulic Downpull on Large Gates

W. P. Simmons, Jr., Associate Member, ASCE, Hydraulic
Engineer, Bureau of Reclamation, Denver, Colorado

Discussion

Peter M. Smith, Hydraulic Engineer, Bonneville Hydraulic
Laboratory, Corps of Engineers, Bonneville, Oregon

Session Sponsored by
Committee on Hydraulic Structures

Monday, June 23, 1958

2:30 p.m.

Presiding: Harold M. Martin, Chairman, Executive Committee
Hydraulics Division, and J. H. Douma, Chairman,
Committee on Hydraulic Structures, Hydraulics
Division

High Head Tainter Gates for Reservoir Outlets

T. E. Murphy, Member, ASCE, Hydraulic Engineer, Waterways Experiment Station, Corps of Engineers, Vicksburg, Mississippi

Discussion

A. P. Gildea, Associate Member, ASCE, Hydraulic Engineer, Los Angeles District, Corps of Engineers, Los Angeles, California

Reverse Tainter Lock Valves

R. A. Elder, Member, ASCE, Director, TVA Hydraulic Laboratory, Norris, Tennessee

Discussion

G. C. Richardson, Associate Member, ASCE, Hydraulic Engineer, Walla Walla District, Corps of Engineers, Walla Walla, Washington

Problems Encountered in the Use of Low Head Radial Gates

T. J. Rhone, Associate Member, ASCE, Hydraulic Engineer, Bureau of Reclamation, Denver, Colorado

Discussion

M. L. Dickinson, Member, ASCE, Chief Hydraulic Engineer, Bechtel Corporation, Los Angeles, California

Session Sponsored by Committee on Hydromechanics

Tuesday, June 24, 1958

9:30 a.m.

Presiding: Harold M. Martin, Chairman, Executive Committee, Hydraulics Division, and D. R. F. Harleman, Chairman, Committee on Hydromechanics, Hydraulics Division

Friction Factors in Corrugated Metal Pipe

Lawrence R. Metcalf, Associate Member, ASCE, Hydraulic Engineer, and Marvin J. Webster, Associate Member, ASCE, Head, Hydraulic Section, Corps of Engineers, Portland, Oregon

Some Model Studies on Energy Dissipation Below Dams

E. Roy Tinney, Junior Member, ASCE, Head, the R. L. Albrook Hydraulic Laboratory, State College of Washington, Pullman, Washington

Hydraulic Model Tests for Design of the Priest Rapids Fish Facilities

Lorenz G. Straub, Member, ASCE, Director, St. Anthony Falls Hydraulic Laboratory, University of Minnesota, Minneapolis, Minnesota

Session Sponsored by
Committee on Tidal Hydraulics

Wednesday, June 25, 1958

2:30 p.m.

Presiding: Harold M. Martin, Chairman, Executive Committee,
Hydraulics Division, and Eugene P. Fortson, Chairman,
Committee on Tidal Hydraulics, Hydraulics Division

Interim Consideration of the Columbia River Entrance

John B. Lockett, North Pacific Division, Corps of Engineers, Portland, Oregon

Salt Routing in Six Hundred Miles of Sacramento-San Joaquin Delta Channels
by Digital Computer

Herbert A. Howlett, Associate Member, ASCE, and Don H. Nance, California Department of Water Resources, Sacramento, California

Use of Tri-Linear Diagrams in the Study of Sea Water Intrusion in Multiple
Estuary ChannelsWayne MacRostie, Associate Member, ASCE, Hydraulic
Engineer, California Department of Water Resources,
Sacramento, CaliforniaSession Sponsored by
Committee on Sedimentation

Thursday, June 26, 1958

9:30 a.m.

Presiding: Harold M. Martin, Chairman, Executive Committee,
Hydraulics Division, and Alvin G. Anderson, Chairman,
Committee on Sedimentation, Hydraulics Division

Rate of Growth and Location of Delta Formations

A. S. Harrison, Junior Member, ASCE, Chief of the
Hydraulics and Sediment Section, Omaha District,
Corps of Engineers, Omaha, Nebraska

Analytical Study of Alluvial Channel Roughness

Hsin-Kuan Liu, Associate Member, ASCE, Assistant
Professor of Civil Engineering, Colorado State University,
Fort Collins, Colorado

Laboratory Studies to Determine Cover Blanket for Kennewick Canal, Washington

E. J. Carlson, Member, ASCE, Hydraulic Engineer, Bureau
of Reclamation, Denver, ColoradoJoint Session Sponsored by
Committee on Flood Control, Hydraulics Division

Thursday, June 26, 1958

2:30 p.m.

Presiding:

Waterways and Harbors Division, and Mr. H. Alden Foster,
Chairman, Committee on Flood Control, Hydraulics Division

General Plan for Columbia Basin Flood Control

Brigadier General L. H. Foote, Member, ASCE, Former
Division Engineer, North Pacific Division, Corps of Engi-
neers, United States Army

Application of Snow Hydrology to Columbia River Basin

Oliver A. Johnson, Associate Member, ASCE, Water Control
Branch, North Pacific Division, Corps of Engineers, United
States Army, and Peter B. Boyer, Esq., Hydrology Section,
Portland District, Corps of Engineers, United States Army

Digital Computer Technique for Stream Flow Routing in Columbia River Basin

David M. Rockwood, Associate Member, ASCE, Water Con-
trol Branch, North Pacific Division, United States Army

PORLAND CONVENTION EXTRAS

The following tentative excursions are planned for the forthcoming con-
vention:

1. Portland's Bureau of Water Works Headworks
2. Lumber mills in Longview, Washington
3. Highway construction near Portland
4. Hydraulic laboratory at Bonneville Dam

The Hawaii Section is sponsoring a Post-Convention Tour of the Islands.
The tour will take off from Portland by air on June 29 and will include technical
sessions in Honolulu on July 1 and 2.

J. C. STEVENS HYDRAULIC EXHIBIT

The Oregon Museum of Science and Industry in Portland is preparing a permanent hydraulic exhibit to be named in honor of J. C. Stevens, Member and Past President, ASCE, and one of the founders of the Hydraulics Division. The central feature is a large tank about 10 ft by 18 ft by 8 ft deep to be completely illuminated from top to bottom. It is proposed that in conjunction with the main tank there will be a series of small exhibits that would demonstrate the basic fundamental principles of hydraulics. In keeping with modern museum practice these models for the most part will be of such a nature that they can be operated by the observer. Such things as Pascal's Law, Toricelli's Theorem, Archimedes' Principle and Bernoulli's Principle will be among the basic exhibits.

It is anticipated that the ASCE Hydraulics Division will join with the Museum in a luncheon or dinner during the Portland Convention to recognize Mr. Stevens' contributions to the Hydraulics Division, and to acknowledge his important part in the development of the Museum.

ATLANTA CONFERENCE

The 1958 Hydraulics Division Conference at Atlanta, Georgia, August 20-22, will be sponsored jointly by the Georgia Section and by the Georgia Institute of Technology. The technical program will consist of six sessions, one sponsored by each of the six technical committees.

The Flood Control session is being arranged by C. P. Lindner and J. F. Friedkin. The program tentatively includes papers on the Mississippi River project flood, floods on the Tennessee River and in the Florida Everglades, and hurricane floods in the Carolinas.

The Hydraulic Structures session theme will be highway hydraulics with G. E. Hands making arrangements.

The Hydrology session sponsored by C. C. McDonald and C. E. Kindsvater will be a symposium on the general subject of water rights in the Eastern (humid) states. The tentative panel consists of experts representing agriculture and conservation, industrial water users, municipal or public water users, and an expert on water law.

The Hydromechanics session is being arranged by F. B. Campbell. The tentative program includes papers on rough pipe flow, concrete pipe, open channel roughness, inclined open channels, and teaching undergraduate fluid mechanics.

The Sedimentation session will be sponsored by A. G. Anderson.

The Tidal Hydraulics session arranged by E. P. Fortson tentatively includes papers on tidal action and salt-water intrusion and on investigations of Vermilion Bay, Louisiana, and the Southwest Pass of the Mississippi River.

The June issue of the Hydraulics Division Newsletter will feature the complete program for the Atlanta Conference.

FOR YOUR CALENDAR

ASCE Meetings

June 23-27, 1958	ASCE, Portland, Oregon, Convention
August 20-22, 1958	Hydraulics Division, Atlanta Conference
October 13-17, 1958	ASCE, New York Convention
February 9-13, 1959	ASCE, Los Angeles Convention
May 4-8, 1959	ASCE, Cleveland Convention
July 1-3, 1959 (Tentative)	Hydraulics Division, Fort Collins Conference
October 19-23, 1959	ASCE, Washington, D. C., Convention

Non-ASCE Meetings

April 20-25, 1958	American Water Works Association, Dallas, Texas
June 11-14, 1958	Third U. S. National Congress of Applied Mechanics, Brown University, Providence, R. I.

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June 16-18, 1958

September, 1958

September 15-20, 1958

June 15-19, 1959

September, 1959

Deadline dates for Newsletter contributions: June issue—April 15; August issue—June 15.

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April, 1958

Seventh Hydraulics Conference, Iowa Institute of Hydraulic Research, Iowa City, Iowa

Second National Conference on Applied Meteorology, University of Michigan, Ann Arbor, Michigan

Sixth International Congress on Large Dams, New York

American Society for Engineering Education, Pittsburgh, Pennsylvania

International Association for Hydraulic Research, Montreal, Canada

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